

Instructions for a Homemade Sunspot Viewer

Option ONE:

Materials:

- 1 regular wire hanger
- 1 pair of wire-cutting pliers
- 1 8 x 11 piece of white poster board*
- 1 pair of scissors
- 2 large paper clips
- tape

* if you don't have a piece of poster board, light colored construction paper or a manila folder can be used.

Instructions:

Use the pliers to cut off the neck and hook of the hanger. Immediately after cutting, use pliers to turn sharp ends of neck inward to avoid injury. Straighten both arms until they are perpendicular to the base. Use pliers to curve one arm into a closed loop (this will fit over the aperture of your telescope, so the size may vary). Cut halfway up/down the other arm and use pliers to form a small hook facing towards the inside. With the point of the scissors or the broken neck of the hanger (teacher, please supervise), poke a small hole about $\frac{1}{2}$ of an inch from the top of the poster board. Insert the hooked end of the shorter arm of the hanger. Now use the two paper clips to form an X across the hook of the wire and the edge of the folder to prevent wobbling of the image. Use the tape to support this.

Now attach the loop to the aperture of your telescope and adjust the size as necessary to fit snugly. Use a small piece of wire to loop around aperture and attach to base wire below at a right angle. The distance between aperture and poster will probably need to be adjusted. Focus the telescope on the sun.

WARNING: NEVER LOOK DIRECTLY AT THE SUN! DO NOT LOOK THROUGH THE TELESCOPE AT THE SUN!!

When the distance and focus is correct, you should expect to see a circle of light (the sun), which is brightest at the center and darker around the edges. Inside the circle, generally toward the midline of the sun, you will see small black dots; these are the sunspots!



Option TWO:

Materials:

1 adjustable sheet music/choral stand
8 x 11 piece of white poster board

Instructions:

Place poster board on the sheet music/choral stand. Focus telescope on the sun and adjust until a perfect circle of light appears on the poster board.

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A sheet music/choral stand will be easier to manipulate. As individual telescopes often have unique needs, this might be a preferable option if the materials are available.

Option THREE:

Materials:

1 8 x 11 piece of white poster board

Instructions:

Hold piece of white poster board away from telescope aperture. Focus sun in telescope.

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This photo shows the actual image of the Sun as it appeared on a sunny day. On the right hand side the observer is holding the posterboard in place.